

**First Action Interview
Office Action Summary**

Application No.

10/578,602

Applicant(s)

HARDT, STEFFEN

Examiner

Jennifer Dieterle

Art Unit

1795

Page 1 of 2

The MAILING OR NOTIFICATION DATE of this communication appears on the cover sheet with the correspondence address.

THE SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE **ONE MONTH OR THIRTY (30) DAYS**, WHICHEVER IS LONGER, FROM THE MAILING OR NOTIFICATION DATE OF THIS COMMUNICATION.

This time period for reply is extendable under 37 CFR 1.136(a) for only ONE additional MONTH.

☒ Applicant's request to not have a first-action interview is acknowledged (or the time period for reply set forth in the Pre-Interview Communication has expired and the Office did not receive any reply).

Status

- 1) ☐ Responsive to communication(s) filed on _____ and interview conducted on _____.
- 2) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 3) ☒ Claim(s) 4, 6, 12 and 13 is/are pending in the application.
- 3a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 4) ☐ Claim(s) _____ is/are allowed.
- 5) ☒ Claim(s) 4, 6, 12 and 13 is/are rejected.
- 6) ☐ Claim(s) _____ is/are objected to.
- 7) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 8) ☐ The specification is objected to by the Examiner.
- 9) ☒ The drawing(s) filed on 8 May 2006 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a). Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 10) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 11) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

*See the attached detailed Office action for a list of the certified copies not received.

Contact Information

Examiner's Telephone Number: (571) 270-7872

Examiner's Typical Work Schedule: Monday thru Thursday, 9am to 4pm (EST)

Supervisor's Name: Alexa Neckel

Supervisor's Telephone Number: (571) 272-1446

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SI.06)
- Paper No(s)/Mail Date 5/8/06
- 4) ☐ Interview Summary (PTO-413)
- Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

First Action Interview Office Action Summary		Application No. 10578602	Applicant(s) HARDT, STEFFEN	
		Examiner Jennifer Dieterle	Art Unit 1795	Page 2 of 2

Notification of Rejection(s) and/or Objection(s)

#	Claim(s)	Reference(s) (if applicable)	Rejection Statutory Basis	Brief Explanation of Rejection
1	4, 6, 12 and 13	A and B/N	103(a)	Reference A teaches an electrochromatic device (i.e. a device for separating substances) comprising an electric field (i.e. hence the "electro" chromatic) to a microfluidic system comprising a plurality of adjoining sheets which have two phase boundaries.
2	4, 6, 12 and 13	C, D, E and F	other pertinent art of record	It is noted that references C, D and E teach separation devices comprising a flow channel comprising a sheet of two different phases.
3	4, 6, 12 and 13		112, 2nd	Claims 4, 6, 12 and 13 recite that the individual phases that are arranged in parallel can be a liquid or gel.
4			Drawing Objections	Figure 1a utilizes what appears to be the letter "M" which is not defined in the specification. It is believed the "M" is supposed to be the number 11; however, it is difficult to distinguish "M" and the numeral 11 in figures 1a and 3.

Expanded Discussion/Commentary

1	(see entire document, especially sections 0011-12, 0016, 0043-44 and 0060-61). Reference A teaches the use of a sol-gel that can comprise two phases (section 0060). Additionally, reference A teaches that the device comprises microfluidic channels less than about 500 microns; thus, the thickness would be submillimeter. Reference A is silent as to the direction of the electric phase applications. Reference B specifically teach that in an electrochromatic device, electric fields can be applied in either parallel or perpendicular (section 0074).
1	It is noted that reference B is utilized as the translation of reference N.
2	While these reference teach a single sheet, reference F teaches that it is known in the separation art to utilize multiple substantially planar device layers laminated together (see reference F figure 4B, #145, col. 12). Additionally, as noted above, reference G teaches that electric fields can be applied perpendicularly.
3	In the case of a liquid, it is not clear, given the properties of a liquid, how multiple sheets of liquid will remain separate when placed against each other. The basic nature of a liquid is to "immerse". Therefore, if a liquid is utilized, it is not clear how it will maintain separate sheets, thus forming a plurality of adjoining sheets.

DATE:	/Alexa D. Neckel/ Supervisory Patent Examiner, Art Unit 1795
--------------	---